Hypermodern

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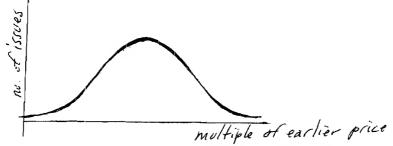
Contents

Possible Applications of the Concept of Brownian Motion in the Stock Market2
A Possible Basis for Peace in Viet Nam7
Psychosomatic Aspects of Death; An Experiment with Suggestive Therapy
Editor's Comment on the Casler Paper

Possible Applications of the Concept of Brownian Motion in the Stock Market

A few years ago, an article appeared in the <u>Journal</u> of the Operations Research Society of America, entitled "Brownian Motion in the Stock Market", or something of the sort. The author of that article contended that lengthy study of the statistics of stock market fluctuations had led to the conclusion that the prices of stocks at a given time, expressed as percentages of the prices of the same stocks at a given earlier time, tended to distribute according to a normal distribution on a logarithmic scale.

The normal distribution, of course, is the familiar "bell-shaped curve" of the statisticians, which looks somewhat as follows:



If the median stock, in terms of later price as a percentage of earlier price, was unchanged in price, and if the scale were arithmetic rather than logarithmic, then then the total price of all the stocks would be unchanged. This because the curve is symmetric; any distance to the right of the median represents a price of 1+N, the same distance to the left represents a price of 1-N; there are the same number of arrivals at the same distance to each side of the median; averaging those pairs of groups of arrivals, each pair averages 1; hence the average for the whole is 1, i. e., unchanged.

The statistical evidence, however, is that the distribution tends to be on a logarithmic scale. This fact means that any distance to the right represents a multiplication by N; the same distance to the left represents a multiplication by 1/N. the average of these two is $\frac{1}{2}(N+1/N)$, which is always greater than one, except when N equals one. This fact means, among other things, that the market has a general tendency to go up, over long periods, largely because stocks that go up tend to go up more than those that go down go down.

It has been observed that the market has tended to gravitate upward over the years. There is nothing mysterious or uncanny about this observation. There are many after-the-fact explanations, one of the simplest being the following. If the consensus among investors is that a given stock will sell, for whatever reasons, for 100 a year from now, the price will not be bid up to 100

today, because the investor wants some return on his money. Suppose that due to the nature of the risk, the consensus is that a return of 10% should be tried for in this particular stock; then one can expect it to be bid up to about 91. If the stock pays a dividend of, say, 4 per year, then it might be bid up to 95, the investor expecting the dividend of 4 and the anticipated increment of 5 to give him the percentage that justifies the risk. Commissions, the spread between bid and asked, and so on complicate the picture, without changing the general idea that the price tends to gravitate a little below the anticipated future price, hence, the market tends to move up.

It is also natural to suppose that the consensus will be wrong by a little bit fairly frequently, to one side or the other, and wrong by a lot on a few occasions, again erring to either side. This expectation tends to sketch out something like a normal distribution. To explain why one would expect a normal distribution on logarithmic paper is a little more complicated, and we will content ourselves here with repeating it as an observation. We shall add only the observation that the scale of stock prices is only a half-dimension. The prices might conceivably go up to any figure, but they do not go down below zero. Whenever one expects something like a normal distribution, but on a half-dimension, advanced intuition should lead him to suspect a normal distribution of the logarithms instead. If the dispersion is small relative to the mean, the two distributions will be similar, and can easily be confused, and frequently it does not matter which is employed. An example, where it does matter, is the Weber-Fechner Law, which states that the amount of optical sensation is proportional to the logarithm of the amount of light received. The amount of light is a half-dimension, since light cannot be negative, and the response of the body is to the logarithm of the amount of light, which, by the way, is a full dimension.

Up to this point we have nothing of practical value other than the fact that the average stock tends to go up slightly, subject to a lot of vagaries. A U. S. Senator got this far recently, and claimed to have thrown darts at a stock market page, and reckoned how well the stocks thus selected had performed in recent years. He claimed that a portfolio of these stocks would have gone up reasonably well, and implied that some mutual funds were not doing any better. Another person once calculated that a simple portfolio of well-known stocks, held over many years, would have performed better than a portfolio which was bought and sold according to the precepts of the "Dow Theory".

Nevertheless, the average increment in the stock market is not very great. Furthermore, there are competing investments, which are commonly regarded as: safer, which generate a certain annual increment; among these are United States bonds and insured savings and loan. Consequently, the investor is really taking the added risk in stocks only in return for the added percentage, over and above the competing investments. The added percentage can be very

small indeed.

How, then, could the investor make practical use of the knowledge that stock prices tend to disperse like a normal distribution over a logarithmic scale? Suppose we look at some subsets, that is, some small groups of stocks over relatively short periods of time. There are perhaps four different phenomena, relative to the analysis which we have already discussed, which we might want to watch for:

- 1) The median issue might not be unchanged in price. It might have gone up or down, probably taking the hump of the distribution with it, greatly affecting the investment values of the subset. Finding a subset in which the median will go up, of course, is just the well-known problem of finding a good group. We have no new suggestion on this point, except one which may be periforal, which will come in later in this article.
- 2) The subset may distribute in a poor approximation to a normal distribution. In such a case, the analysis contained in this paper does not apply.

3) The standard deviation may be large because of a poor approximation

to a normal distribution.

4) The standard deviation may be large because this subset is dispersing faster than the main set.

A subset which tended to distribute according to a normal distribution on a logarithmic scale, but which dispersed more rapidly than stocks generally, would tend to have the same feature of steady average increase, but would yield a higher percentage in the same length of time!

Industry groups would not necessarily be the best subsets. Offhand, unusually high volume sounds like a good criterion, and for several years low priced stocks seem to have been pretty good. What we may be talking about may boil down to a balanced portfolio of special situations.

Instances of fast dispersion having been discovered, one could then look around for indicators. Perhaps a month of fast dispersion indicates another month of the same to follow; possibly the real indicator is high volume, or high volume in a commercially related group, or just about any other thing.

Some of these indicators may well not have been appreciated before. Suppose after some occurrence common to three stocks, one goes up to 150% of its previous price, one remains unchanged, and one goes down to 67% of its previous price. One person might say that that occurrence was as poor an indicator as you could get, because out of three stocks, one went up, one went down, and one remained unchanged. A person familiar with the theory, however, might look further, because the three results are beginning to sketch out what might be a normal distribution on a logarithmic scale. One multiplied by 3/2, one by 2/3, and one by 1. The three average an increase of $4\frac{1}{2}$. How good that is depends partly on

how long a period of time has elapsed. A group of eight stocks, chosen solely for low price and high volume, in a recent three-month period had a median multiple of 1.2 and extremes of .97 and 2.2. The average multiple was 1.31. Subtracting the median of 1.2 from that figure, we can reckon a gain of about 11% in three months as due to dispersion, as against 20% due to a rising median.

I think the examples show, however, that it is still better to guess what stocks are going up -- nothing we know of can beat that system -- and, because what we suggest has elements of diversification in it, it does not give rise to fabulous percentages. What it promises to do -- if it survives statistical testing -- is to outperform the market by a respectable margin, hopefully with about the same amount of risk as the market generally presents.

We have looked at four other small groups of high volume, low price stocks, over periods of about one month, the groups containing from eight to eighteen stocks, yielding the following results:

Median Increase	Mean	Increase	Minus	Median	Increase
9%			6%		
28			-1		
9			10		
-4			3		

For the average investor, the calculations necessary to make use of this information would have to be somewhat simplified. First of all, he cannot test a lot of groups, consequently he should choose at the outset the one or two that he thinks are the most likely anyway. Percentage calculations ought to be done with a slide rule, though one might try logarithmic graph paper and a pair of dividers (to translate the distances between pairs of points to a common origin). I seem to recall from an old cookbook on statistics that one ought to have about 40 samples before attempting to determine whether a normal distribution is present or not.

Finding the logarithms of the price changes, then calculating means and standard deviations, using populations around size forty, and possibly checking the same population through various time periods in a search for indicators is clearly too much work. The best idea seems to be to graph the multiples on logarithmic paper, just look at them to decide whether they seem to approximate a normal distribution or not, and just look at them to determine the extent of their dispersion. The standard deviation can also be approximated by counting 1/6 of the way down the distribution from the top, and 1/6 of the way up from the bottom, and averaging the two. One averages the physical distances on the logarithmic graph.

A more elaborate effort to lay bare some of the workings of the stock market process might require lengthy or group or possibly computerized effort. We are aware of some computerized efforts at present. One effort is somewhat reminiscent of the Medieval

alchemist, pouring fluids together in more or less random fashion, in the hope of finding something valuable. By this method, various figures, technical and fundamental, are amalgamated according to a purely empirical formula which is continually adjusted until the resulting figures appear to behave as indicators. A service is now providing such figures to brokerage houses. We have no personal knowledge of how well they work.

A second method now being employed consists of something which must be what is known as "tape reading" done by computer. In this approach, the electronic information from the ticker is fed directly into the computer, eliminating keypunching. The computer operates hour for hour as the exchange and the ticker operate, looking for a particular relation, which I do not feel at liberty to divulge, in sequences of transactions, in every stock. Updated totals are ready before dinner time. Obviously a human being, however good a tape reader he might be, could do only a small fraction of this amount of work. How good the results are obviously depends on how significant the formula is. It has to be good enough to justify six or eight hours of computer time, plus ticker coverage, every trading day.

We mention in passing that there must be many known methods of "tape reading", which probably could be computerized. Not too long ago a reprint of an old book entitled <u>Advanced Tape Reading</u> was being advertised. We have no knowledge of its contents or quality.

Thatever is done with statistics, however, it seems to us that if the right parameters are chosen the statistics are more likely to yield up their secrets. If groups of stocks tend to behave as normal distributions on a logarithmic scale, the simple descriptors of such distributions, the mean and standard deviation (of the logarithms) or other comparable figures, might tell a better story than, say, mere arithmetic averages. The average of a group, as we have noted, might go up because the median performer is going up, and it might go up because the stocks are dispersing; and these two elements of statistical behavior may be covering each other up.

We also imagine that a statistical approach somewhat analogous to chemistry might be developed. Chemistry differed from alchemy in that the chemists tried to find out something that was simple, underlying, and true, whether it was immediately useful or not. A seemingly unimpressive relation may be very significant not because of itself, but because when it is removed from the statistics the residue may contain something interesting.

A Possible Basis for Peace in Viet Nam

Ne suggest as a possible basis for peace in Viet Nam the establishment of a government of largely symbolic powers, with jurisdiction over all of Viet Nam; existing powers generally, including in particular all those necessary for self-defense, to be retained by the Saigon government in the South and the Hanoi government in the North. These two governments would then formally be regarded as members of some sort of federation or confederation.

The terms then would include an end to the fighting, an amnesty covering acts associated with the fighting prior to the armistice, the return of prisoners who wish to return from either part of the country, and the right of persons in the South to migrate to the North if they so desire, for a limited period following the armistice. The point of this last is both to permit members of the National Liberation Front to get out of the South, where they might be subject to reprisals in spite of the declaration of amnesty, and also to encourage them to get out of there, to reduce the likelihood of a renewal of the conflict. They probably ought to be permitted to take with them such property as they appear to own, and a small per capita amount to cover whatever they might have to leave behind could be paid to them or to the North Viet Namese government. Since it is rather to the interest of both the South Viet Namese government and the government of the United States to get those people out of there, it is to the interest of those governments to make such a per capita payment.

The United States has already offered economic aid to Viet Nam in return for an end to the fighting. It might be desirable to condition the amount of aid to the North on the number of members of the Viet Cong who leave the South. I appreciate the fact that it would still be necessary to prevent them from reentering the South, and, indeed, to prevent them from marching around and around and collecting every time they passed through the turnstile.

It is possible, based on the history of prior negotiations, that the enemy would demand a territory in South Vietnam, ostensibly for the protection of members of the N. L. F. and actually for the purpose of maintaining a stronger claim to eventual control over South Viet Nam. It seems that it would be reasonable to reject such a demand on the grounds that it is not really necessary for the protection of the members of the N. L. F., who can migrate to contiguous territory which is part of Viet Nam anyway, and endless splitting and re-splitting of the non-Communist part of Viet Nam would splinter it down to nothing.

The establishment of a largely symbolic government for all of Viet Nam would at least have the effect of giving the North Viet

Namese the elections in which they profess to be so much interested. A highly centralized government is not necessary in order to have elections. Governments vary in their degree of centralization all over the world. This suggested government might mediate between the two regions and might eventually become more significant after voluntary grants of power from both constituent states.

Presidents, of course, are symbolic figures in many countries. Perhaps the President fills the symbolic role filled by the monarch in a constitutional monarchy more often than he fills the powerful role of President as in the United States or the present French Republic. We cannot think of any president who is the symbolic head of more than one independent state at the present time, but that is the position of the British monarch relative to some of the Commonwealth countries. Perhaps that is the role of the President of the French Republic relative to countries other than France in the French Community.

Such a government ought to have enough powers that the individuals holding its offices could command respect within the country. At the same time, these powers ought not to be such that they could serve as a vehicle for a take-over. Determining powers which would meet these two criteria would not be easy, but it would be much easier than safely dividing portfolios between Communists and non-Communists in a central government hopefully to be governed by a coalition.

If the new government were not a threat, it would not even be necessary to supervise the elections to it. The North could continue to outlaw all parties except the Communist Party; the South could continue to outlaw that party. Ideally, the election laws would be so framed that the elected personnel of the new government would tend to divide between the two regions. One would think it would be sufficient to rule that the person with the second largest number of votes would become Vice-President; but perhaps in unsupervised elections two persons from the same region would each get more votes than anyone from the other region.

To those who argue that all this would be a sham, one can reply among other things that the degree of centralization of a government is likely in general to reflect underlying conditions of power and consent, and those conditions here seem to favor two virtually independent regions.

To those who argue that the North would have no reason to accept these conditions, we answer first that the North probably is not benefitting from the conflict; second, Ho Chi Minh cannot become the George Washington of Viet Nam unless he gets elected President of Viet Nam, and he cannot get elected President of Viet Nam if there is no Presidency of Viet Nam.

Since World War II, there have been about twenty countries in which the Communists have been powerful enough to raise the prospect of a Communist government or of a coalition government including Communists. A brief examination of the developments in these countries in this particular regard might be worthwhile here.

Poland, Rumania, and Bulgaria were overrun by the Russian Army in the closing stages of the war. The Russians promised to establish democratic governments and to hold free elections. They established Communist governments, which are, in their view, the only democratic ones. These governments permit only one party, which is the Communist Party.

Consequently, it became clear that there was virtually no prospect that a country, once it became Communist, could ever become non-Communist through the electoral process. For this reason, we think it is desirable that South Viet Nam be maintained independent of North Viet Nam or of any government in which Communists participate, and we believe it is entirely appropriate that South Viet Nam continue to outlaw the Communist Party.

Hungary and Czechoslovakia were also occupied by Russia, but coalition governments including the Communists were established there. These were small countries with national police forces controlled by the ministries of the Interior. The Communists gained control of the ministries of the Interior, and combined subversion from within with Russian Army pressure from without to bring Communist governments into power around 1948 and 1949.

In view of such threats, almost the only significant portfolios in such a coalition are those that control the police and the army. This fact leaves almost nothing to negotiate or compromise over in the formation of a coalition government including Communists. Consequently it seems that the only reasonable basis for agreement in Viet Nam is one in which the significant power is divided territorially.

In China about 1947 there was an effort to create a coalition government including the Communists. The Nationalists held all the symbols of the national government. Both sides had large armies. Opinions differed over which side would win. The negotiations broke down when the Nationalists demanded that the Communist army be brigaded into the Nationalist Army, and the Communists refused.

This problem points up the fact that there is a problem over the physical presence of a Communist armed force, even where a coalition government is being considered. Something must become of that force. It is not likely that the members of the National Liberation Front would be willing to submit to the Saigon government, except in dire extremity. However, since part of Viet Nam is already in Communist hands, formally, there is some possibility that the Viet Cong could be induced to withdraw into that territory, if they could be brought into the neighborhood of dire extremity, or if North Viet Nam threatened to stop aiding them.

In Korea, of course, there were separate territorial governments, and nevertheless there was an effort to unify the country by force, which would almost certainly have succeeded if the United States had not joined in the action there. Thus territorial separation can be seen not to guarantee that the Communists will not use force in an attempt to gain the non-Communist part of the country. However, the initial partition of that country, made rather casually by the occupying powers in 1945, lasted only five years; the present partition, though territorially almost identical, is battle-tested and has lasted fifteen years.

Germany and Austria were divided as a result of the immediate post-war occupation. The Russians refused several efforts to unify Germany and built an East German "police force" that compelled the West to agree to German rearmament. The only basis on which the Russians ever agreed to unification of these countries was that of neutralization. The Allies agreed to that basis in the case of Austria and it was reunified in 1955. They rejected the notion with respect to Germany on the ground that a neutralized Germany would invite agression. There are doubtless other reasons militating in favor of the rejection. In particular, Germany has five times the area of Austria, ten times the population, and a strategic position on the North European Plain, as against Austria's relatively less strategic position in the Alps. Thus for practical purposes it seemed that a wide open Germany would mean a wide open Europe.

De Gaulle proposed at one point that neutralization be attempted in Viet Nam. Viet Nam has the area of Germany and half the population. It also has significant countries behind it, such as Thailand, Burma, and Malaya. Important also is the fact that there are a lot of troops already engaged there, that a lot can happen in the jungles without anyone knowing about it, and the potential aggressor is China, which, although it has been very careful in action around its borders, has been careless in talk.

Nevertheless, we cannot in honesty deny that Austria has been united and unmolested since she went into her state of neutralization thirteen years ago.

In Yugoslavia, the Russians left power in the hands of a Communist guerrilla leader, who had the chief non-Communist guerrilla leader executed and later had his Vice President jailed for a long term for criticizing the Communist system. Nevertheless, he made marked changes in Communism itself by advocating "national Communism", making alliances with non-Communist countries, and staying out of the Warsaw Pact. Eventually the doctrine of "national Communism" has gained some slow acceptance. Some Americans seem to believe that it can be relied upon to such a degree that it is not important to resist Communism in Viet Nam. Their view runs into three problems: 1) the slowness with which Tito's doctrines have spread; 2) our committment to the people of South Viet Nam; 3) the fact that independence among Communist countries has sometimes led to extremism rather than moderation, as in the cases of China and Cuba.

In Greece after the war the Communists fought as guerrillas until they were defeated by British and then American opposition, and by the Yugoslav defection from international Communism. This fact does not seem to be relevant to the situation in Viet Nam, unless North Viet Nam could be induced to discontinue aid to the Viet Cong. It is, however, for that purpose that we have proposed the creation of the symbols of national unity, and the vehicle for possible arrival at that point at some future time. These are not everything the North Viet Namese want, but the situation may require that they accept less than what they want; and these proposals seem to be a reasonable compromise in a direction in which they have expressed particular interest.

In France and Italy, there are large Communist parties. Since shortly after the war, these parties have been excluded from the governments, thus avoiding the problem of distributing portfolios and reducing the danger of subversion. These parties have also avoided guerrilla or underground action, quite obviously under orders. How many of their members would take action under orders is debatable, but it would not take a very large fraction of a big party to make a lot of trouble. Underground and partisan activities must be possible in these countries, or at least they were during the Nazi occupation. Perhaps these parties have avoided violence because they are permitted to act under the electoral system, and the unions they control can also strike. Until around 1952, however, there was a marked danger that the Communists would win an election in one or both of those countries, and it is still an outside possibility; there is the danger of strikes paralyzing the country in connection with some international objective of the Communist Party; and the threat of underground action of course still exists.

All of this suggests that there is very high risk involved in a legalized Communist Party, especially where it may be a big one. Whether there is more or less danger in outlawing such a party is a question the individual states cannot avoid. If the French and the Italians get through the present stage in history without suffering the serious damage which those large Communist parties could wreak, history will have to record that they played it with great delicacy.

India has a legalized Communist Party, and does not seem to have any trouble with Communist guerrillas. On at least one occasion, the Communists have gained control of a provincial government. However, The Congress Party there has been in strong control of the federal government ever since the war. The federal government in that country also has the right to intervene and dispossess a state government completely, which may be a significant threat.

Malaya and the Phillipines both were troubled by Communist gurrilla movements; these seem to have been defeated after several years by a combination of national independence, fighting, and the fact that the guerrillas did not have contiguous territorial support. In the Phillipine case, land distribution was also credited for this success. In both cases, of course, the guerrills tended to be in the position of the Greek guerrillas after the Yugoslavs stopped helping them.

In Indonesia, the Communists apparently did not take the guerrilla route, and they did have influence under the rather vague constitutional system that surrounded President Sukarno. One does not know quite what to believe, especially concerning the news out of this country, but if the Communists attempted a coup as claimed, it seems to show that the dangers of coalition government including Communists are by no means a thing of the past; and if the extraordinary massacres of Communists that are said to have followed really took place, it shows that Communists can have something to fear from a coalition situation, too.

In Laos, according to the Geneva agreement of 1954 between the Viet Minh and France, the Communists received a small portion of territory in which to protect their partisans, called the Pathet Lao. This base seems to have been used not only to protect the Pathet Lao, but to threaten or sound out the government through advances into government territory. It is this history particularly that leads us to suspect that if the N. L. F. considered peace at all, they would attempt to pick up territory in South Viet Nam, although they can be protected within Viet Namese territory by migrating north as it is.

In Viet Nam, finally, the country was partitioned in anticipation of elections, by the Communists and France. Other countries have been partitioned in anticipation of elections which never came about. There is no prospect of reunification of Germany after 23 years; but Germany is a conquered country, which the Russians particularly regard with superstitious fear. Austria was reunified after ten years, because it was not perfectly clear whether it was an enemy country or a liberated country, and because it was small and out-of-the-way and the Allies would agree to reunification on the basis of neutralization. Korea did not achieve reunification, in spite of the fact that it was a liberated country, because it happened to fall between two great powers when the war ended, because the Communists blocked elections and tried invasion instead, and because the invasion failed.

South Viet Nam and the United States have blocked nation-wide Viet Namese elections — to which, of course, they never agreed. The North Viet Namese seem to have decided that the only alternatives are national elections or continuous support for a war to the finish of South Viet Nam, and of North Viet Nam, too, if it comes to that.

We propose, then, national elections. These would not be a high-stakes game, honest or dishonest, for all of Viet Nam, but they would not be completely sham, either. They might achieve an armistice and initiate steps toward further cooperation, without unduly jeopardizing South Viet Nam.

Psychosomatic Aspects of Death; An Experiment with Suggestive Therapy*

> by Lawrence Casler State University College Geneseo, New York

Many physicians, psychologists, and sociologists have long believed that the diminishing vitality so often accompanying the aging process is not entirely the result of physiological factors. Indeed, death itself may stem from non-organic causes. Concentration camp prisoners who died because, reportedly, they lost the will to live, and deaths in other societies occasioned by "voodoo" curses and the consequent expectation of dying are only a few of the examples that might be cited to suggest that death may have a psychosomatic component.

There are a number of forms of behavior expected of individuals at specific age levels. For the elderly in our society these social expectations include the notion of gradually decreasing vitality, terminating in death. Cultural norms combine with more immediate social pressures to induce in the individual the virtually inescapable tendency to behave in a fairly stereotyped manner and the virtually inescapable expectation of dying no later than whatever age-limit is culturally prescribed. These pressures begin quite early in life: youngsters are taught to respect their "feeble" grandparents; businessmen are shown insurance tables in which their life-spans are predicted, etc. The forces are focused most strongly, however, on the aged individual himself: seeing persons of his own age becoming enfeebled and dying, he can, perhaps, covceive of no alternative modes of behavior.

If attitudes do play an important role in reducing vitality and hastening death, then it is possible that changes in attitudes can modify or reverse these tendencies. The study I wish to describe this morning was designed to test the effectiveness of measures designed to alter the attitudes of aged persons concerning themselves and concerning the process of aging.

The study was conducted in the Jewish Home and Hospital for Aged, in New York City. I was introduced to the residents as they were assembled for lunch in the home's dining room. I indicated that I would like to help them to relax better and enjoy life more fully. More than thirty people volunteered to let me visit them.

The volunteers were divided into two groups, equated for age, duration of residence in the home, sex ratio, and physical and mental health (as ascertained from information in the files that were made available to me). A few of the residents decided that they did not

* Paper presented at American Psychological Association Convention, Washington, D. C. 1967.

wish to participate; a few others had to be deleted from the study because of difficulties in English comprehension. The material that follows is concerned, therefor, with thirty people — four men and twenty-six women — divided into two matched groups. The mean ages of the control group and experimental group at the beginning of the experiment were 83.3 and 83.8 years, respectively. Since this particular institution houses only individuals who are ambulatory and able to care for themselves, the health of the thirty subjects was relatively good. More than half of the subjects in each group were European Jews who had come to the United Sates in the late 1930's and early '40's.

The members of the control group were either not visited by me at all, or were visited only once for purposes of data-collection. On the other hand, the fifteen people who comprised the experimental group were each visited at least five times. Appointments, which were made in advance, were on a once-a-week basis, and were thirty minutes in length. The visit was always in the subject's own room, with no observers present.

As to what actually occurred between the subjects and me, I must be less precise. In a few cases, I was able to put into practice my original plan. That is, I would have the individual sit or recline comfortably, I would help him to become deeply relaxed, using one of the standard methods of progressive relaxation, and I would then proceed with a set of suggestions, roughly as follows: "A person is as young as he feels. You have many happy, healthy years ahead of you -- years full of opportunities for pursuing your interests and hobbies and developing new ones, making new friends, and enjoying life free of financial and other responsibilities. You will find it easy to relax, to enjoy yourself, and to remain healthy and happy for many years to come," etc. These suggestions were repeated and elaborated, depending on the reactions of the subject. The usual verbal response of subjects after such sessions was that they felt refreshed and more relaxed, and that they felt they would be able to apply the suggestions in their everyday life.

As I have indicated, the foregoing represents the ideal implementation of my original plan. However, when working with human subjects in a non-laboratory setting, the ideal is seldom achieved. Many of the subjects were not the least bit interested in sitting or lying quietly while I intoned my message. Instead, they viewed our meetings as opportunities to tell me about their families, their neighbors, or their life-histories. I had to content myself, in such cases, with interjecting the message. I believe I succeeded in doing this quite frequently, but it must be pointed out that there is no guarantee that the message always got through to my subjects. I know that many of them looked forward to my visits, but I assume that my popularity was due less to my therapeutic

suggestions than to the fact that I was perceived as a good listener.

The procedure was thus flexible enough to meet the needs of each individual subject. While the content of my comments necessarily differed from person to person and from week to week, the general flavor remained the same: advanced age need not be accompanied by debilitation, helplessness, or demoralization. Some individuals seemed to accept this viewpoint readily; others were rather resistant; and it is likely that still others remained quite unconvinced.

I had at first considered using hypnosis as a means of increasing the persuasiveness of the suggestions, because of its well-known effectiveness in the modification of attitudes, beliefs, and self-concepts. However, I realized that most of the residents would, because of their generally high anxiety level, be unwilling to participate in a study involving hypnotism; since the study was specifically designed with volunteer subjects in mind, I had no alternative but to abandon any thought of using hypnosis. Neverthe less, there remain some striking resemblances between what I was doing and what is generally referred to as hypnosis. The similarities were especially noticeable in those cases in which I was able to get the subjects to listen, quietly and relaxedly, to the suggestions. I should point out, however, that the word "sleep" was never used, that so-called test or challenge suggestions were never employed, and that by a number of other criterea it was clear that none of these subjects entered the hypnotic state.

The design of this research calls for a two-fold evaluation of results. Differences both in morbidity rates and in mortality rates are expected to favor the experimental group. As has been mentioned, the institution is prepared to accommodate only those residents in relatively good health. While minor aches, pains, and anxieties are treated on the premises, incapacitating disorders require hospitalization. Number of hospital days thus constitutes a gross operational index of morbidity. Statistical analysis is complicated by the interaction of different mortality rates (i. e., if control subjects die earlier than experimental subjects, their total number of days of hospitalization is likely to be less, thus giwing a spurious impression of greater health). complications will be dealt with in another publication. As for now, suffice it to say that seven of the fifteen control subjects have died since the termination of sessions two years ago, compared to only three members of the experimental group.

Should these trends continue, the implications are rather exciting to contemplate. It may well be that by means of suggestions similar to those I have described, it will be possible to improve the health, happiness, and manageability of residents of old age homes. Viewed more broadly, these trends suggest that we reconsider

our usual notions of aging and the determinants of death. A person who expects to become helpless or to die at the age of 80, or 85, or 90, is likely to have his expectation confirmed. The process is closely akin to what has been termed the "self-fulfilling prophecy". By counteracting these expectations, at least to some extent, the types of suggestions I have been giving may be instituting self-fulfilling prophecies of their own.

Needless to say, this pilot study will, no matter what its outcome, raise more questions than it will answer. It is quite possible, for example, that the suggestions were irrelevant — all that was necessary was the weekly chat with an attentive, relatively younger person. In the more extensive study now being planned, this possibility will be controlled for by means of a second experimental group. Also, it is hoped that a group receiving direct hypnotic suggestions can be incorporated into future studies.

No one advocates a long life, <u>per se</u>, if the advancing years impose upon the individual a totally dependent, vegetative existence. But long life, accompanied by vigor, joy, perhaps even a little passion — this is a consummation devoutly to be wished.

* * *

Editor's comment on the Casler paper:

Relax; you may be unwittingly participating in an experiment.

We wonder first of all about the breadth of the use of the term "psychosomatic". We can imagine at least two different ways in which thought might!affect longevity; and the two, if they were present, would disguise each other in the results. The first is the type of situation in which a person, say, thinks about something he doesn't like, and consequently gets angry, and the anger has physical effects, which might conceivably kill an old person. In this situation the chain of cause and effect remains entirely within the body of the individual. The second type of situation is one in which a person possessed of the will to live exercises good judgment in handling himself. There the chain of cause and effect might lead to various things outside the body such as the right foods or acts at regular times, or whatever.

This second type of relation is rather far from what we have always thought of as "psychosomatic"; although, frankly, the language of illness seems inappropriate in either case. Both types of situation seem to fall into areas of good or bad policy, where advice from the physician is of a preventive rather than a curative nature.

All of this commentary, of course, does not detract from the experiment, which may be of the utmost importance for the future. What we are really doubting is the blurring of concepts. We live today in a world in which crime, cowardice, heresy, and what not are described as "sickness". Sickness may be described as anything

from failure to love to a secret, subversive desire to frustrate America's efforts in the moon race. To ignore similarities — and differences — between concepts would be to ignore a part of the truth, but to call one concept by the name of another is to sow the wind of confusion.

Confusion of concepts, by the way, is hardly a new practice. When the English decided to burn Joan of Arc at the stake, they had her tied to the stake, and the wood piled up, at which point they chose to preach a sermon. A priest came out, and, adressing himself to Joan, began his sermon with the words, "You are sick".

The author's concluding suggestion of "perhaps even a little passion" is undoubtedly intended to be life-enhancing; however, viewed in another light, it might be regarded as condescension of the type decried by the author at the beginning. A person is, so far as we know, entitled to all the passion he wants so long as he does not invade the rights of others. If, however, old people are playing it smart by avoiding passion for sufficient physical reasons, this fact makes the author's thesis more marginal and complicated. I wonce saw an old man get violently enraged in a political argument. A few minutes later he came past me, leaning forward and breathing heavily. Shortly later he collapsed and died.

I might add, parenthetically, that that man had as much will to live as anybody, so far as I know. I imagine that if he had been younger he would have survived.

Nietzsche pointed out, brilliantly, that men had argued for thousands of years over the freedom or lack thereof of the will, without ever attempting to determine what the will was. His own analysis splintered it into a veritable philosophical scrap heap of odds and ends. It seems to us that persons are said to be manifesting will either when they show vehemence, or when they show self-control, or when they show cruelty. The vehemence may be suicidal in an old person, the cruelty is immoral, and the self-control may lead to the contraction of life which the author attributes to lack of will to live.

We have had no experience with persons as old as the median age in the experiment, and have gathered no figures. We recall an interview article that alleged that the actress Barbara Stanwyck was doing some of the rough riding herself for a Western TV series, at the age of sixty. Of her age she reportedly said, "It's just a number." The people we have known who gave the impression of suffering least from the effects of old age belonged to a relatively small social set which regarded it as tasteless to talk about the self. Perhaps after sixty or seventy years of avoiding the self as subject matter a a person tends to become almost wholly a participant or observer in the external world, automatically minimizing his own condition and thus minimizing destructive feedback.

Iff by passion the author means sexual intercourse, we have always imagined that the problem for a lady of advanced years was that of a lack of partners. This notion suggests an experiment in which

the experimenter has intercourse with the experimental group, while hypnotizing a control group, and having another control group just tell its troubles. Biochemistry is one of our multitudinous weak points, but a lady chemist once told us that semen contains a large amount of male hormone, which enters the female body through the vaginal wall, in amounts very much larger than the amounts of this substance manufactured by the female body. It had the effect, so she claimed, of keeping the female from "getting bitchy". If this substance has such a remarkable property, it might also contribute to longevity in the female.

For the boys, the problem allegedly has more of a physical basis, although here an effect similar to that possibly involved in the author's experiment may be taking place. It is possible that a man suffering a loss of capability at a fairly advanced age would just forget the whole thing, whereas if the same thing happened at an earlier age he would experiment around with Yugoslav spring water, or a measured amount of liquor, or powdered rhinoceros horn, or some such thing.

Incidentally, the chair is open to suggestions on this point. If we could get enough of them, we might open a readers' forum called "What's New in Aphrodisiacs". Possibly "Around the Kitchen Table" would be a good title. In the Dominican Republic, they claim it is bad for the male to eat unfertilized hens' eggs.

Finally, we are reminded for some reason of some lines from a Spanish version of Omar Khayyam that we have lying around the place:

Ne admit that you have resolved the enigma of creation. What is your destiny? We admit that you have been able to strip the truth of all its clothing. What is your destiny? We admit that you have lived a hundred years happily and that still you will live a hundred more full of happiness. What is your destiny?

* * * * *

If You Have Never Heard about the Texas Treaty, Forget It ...

Not that it makes any difference, but we had heard that the treaty between the United States and Texas provided that Texas could split itself into five states at any time in the future if it so desired. We just read the other day that that treaty was never ratified. It seems that at the time Texas was admitted to the Union, states were being admitted in pairs, one in the North and one in the South, to maintain an equal balance in the Senate. Ratification of the treaty would have required a two-thirds vote in the Senate. It was impossible to get enough northern Senators to agree to a treaty that might have created five southern states; indeed, the whole thing sounds in retrospect like a trick engineered for that purpose. At any rate, they had to settle for admission of Texas as a state, which requires only a majority in the Senate, but does not confer the right of parthenogenesis.

Dear Allan.

Thanks for Hypermodern #2. I'm enclosing the last 3 issues of Graustark.

I'm going to pass this issue on to my father, who as an ex-farmer is better qualified than I to criticize it.

As for recruiting of welfare workers, the current variety of college-trained social workers quickly adopts one of two attitudes. Since city aid is inadequate and city procedures cumbersome, and everybody knows it, they either conspire with their clients to screw the city, or comspire with the city to screw their clients.

when the Prince of Wales becomes King, he'll be "Charles III" in both England and Scotland. Scotland never had a Kirg Charles before the 1603 crown union with England.

But actually all this was settled in 1707, under the Act of Union. So the present Queen is Elizabeth II, and that's all.

The British royal family is rich, but it is doubtful whether they are the richest in the country. Several of the ducal families, including Sutherland and Norfolk, are at least as rich. In fact, the marriage of the Queen's aunt, Princess Mary, to Viscount Lascelles was arranged out of financial need, although no one was so ungracious as to say so at the time. The Marl of Harewood, whose heir and eventual successor the Princess married, was big in the banking business. Shortly before the betrethal the Royal Yacht was put up for sale. Shortly afterwards, it was taken off the market.

For further details on the ducal fortunes and other aspects of British ecomomic life, see The Anatomy of Britain by Anthony Sampson.

"Disloyal lawyers" is really a serious problem, and I hope that some of our legal Diplomatists like Prosmitz ham something to say on this point.

Stay well.

The letter is from John Boardman, 592 16th St. Brooklyn, N. Y. 11218. "Diplomatists" are players of Diplomacy, a strategic game invented by the editor of Hypermodern. Graustark is a good magazine published by Boardman and devoted to Diplomacy-by-mail. Prosnitz is a lawyer in Brooklyn, who recently won a civil liberties case, and has written some good articles on the play of Diplomacy.

Deucedly clever of the British to name that kid Charles. -- Editor.

* * *

Answer to Bilingual Riddle: Where did Holy Mary go, with Spot and a girl? These names translate into Spanish as Santa Maria, Pinta, and Niña; they went to the island of San Salvador, under the command of Cristóbal Colón.

We have a Spanish dictionary here which defines a plane as a surface on which lines can be drawn in all directions.

There may be a fortune waiting for the aircraft company that first designs a successful flying wing shaped like a regular pentagon.

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Hvpermodern is not intended to be a research publication; neither is it intended to be a crusading, that is a repetitive, publication, except possibly against psychiatry and the "signature only" imprisonment and other violations of the rights of man perpetrated in its name.

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Third Issue

The cover picture is of the men's dormitory at the Universidad Católica Madre y Maestra, a new university in Santiago, R. D.

Hypermodern Allan B. Calhamer Avenida Mirabal #8 Santiago, Rep. Dom.

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